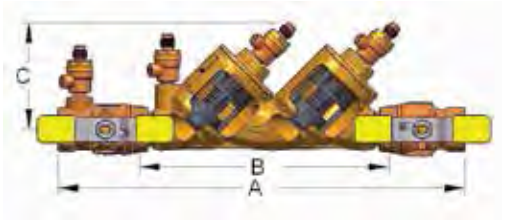
Double Check Valve Backflow Preventers

DC 4A SERIES

Sizes 1/2", 3/4", 1", 1-1/4", 1-1/2", 2"



TOP ENTRY DOUBLE CHECK VALVE ASSEMBLY

The Apollo® MODEL DC 4A Double Check Valves are designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are objectionable, but non-health hazards. The modular check valve captured spring cartridges have replaceable seats and reversible silicone seat discs. Ball valve shut-offs with stainless steel handles and nuts are standard.

OPERATION

During normal flow conditions, the two check valves are held off their seats, supplying water downstream. Each check valve is designed to maintain a minimum of 1 psi across the valve during normal operation. Should the downstream pressure increase to within 1 psi of supply pressure, both check valves will close to prevent a backflow condition.

FEATURES

- Low pressure loss
- Captured spring cartridge check valves
- Compact yet easy to maintain
- Ball valve shut-offs w/ SS handles & nuts standard
- Top access for fast testing and maintenance
- Threaded testcock protectors
- Corrosion resistant
- No special tools required
- 5 year, domestic warranty
- **Lead-Free** option
- AWWA C510
- UL, ULC Classified (less shutoffs)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
- ASSE 1015
- IAPMO
- CSA
- Chloramine-resistant elastomers
- Patent pending
- Horizontal and vertical up approvals
- Maximum working pressure 175 psi
- Temperature range 33°F - 180°F
- Designed, manufactured, assembled and tested in South Carolina, USA

MATERIALS

Part	Material
Body , Caps	Bronze C84400/LF C89836
BV Shut-offs, Testcocks	Bronze C84400 or LF C87800
Check Valves	Glass-Filled PPO
Springs	300 Series Stainless Steel
Seat Discs	Chloramine-Resistant Silicone
O-rings	Chloramine-Resistant EPDM
Ball Valve Handles	Stainless Steel

FACTORY CODE

4A [X]	1 X	X	A X	X
	Y-strainer	SIZE	SHUT-OFF VALVES	OPTIONS (CAN BE COMBINED)
4A = Standard 4ALF = Lead Free	0 = Standard 1 = w/ Y-strainer (shipped loose)	3 = 1/2" 4 = 3/4" 5 = 1" 6 = 1-1/4" 7 = 1-1/2" 8 = 2"	2 = w/ball valves (Standard) 4 = w/union ball valves (3/4" - 2")	F = SAE threaded test cocks (standard 1/2" 3/4", 1") LL = locking lever handles PR = Press P = Push (3/4" -1")

Example:
***4A 104 A4LL** = 3/4" double check valve assembly with union ball valves with locking lever handles*

DIMENSIONS

See Page 55 For Flow Curves

Model No. Factory No. Size	4A 103 A2F DC 4A 12 1/2"	4A 103 A2F DC 4A 12 15 mm.	4A 104 A2F DC 4A 34 3/4"	4A 104 A2F DC 4A 34 20 mm.	4A 105 A2 F DC 4A 1 1"	4A 105 A2 F DC 4A 1 25mm.	4A 106 A2 DC 4A 114 1-1/4"	4A 106 A2 DC 4A 114 32 mm.	4A 107 A2 DC 4A 112 1-1/2"	4A 107 A2 DC 4A 112 40 mm.	4A 108 A2 DC 4A 2 2"	4A 108 A2 DC 4A 2 50 mm.
A*	**10-7/8**	276	**12-5/8**	321	**14-5/8**	371	**17-1/2**	445	**18**	457	**20-1/8**	511
B	**7-3/8**	187	**8-1/2**	215	**9-1/2**	241	**11-3/4**	298	**11-5/8**	295	**12-3/4**	324
C	**3-1/4**	83	**3-1/2**	89	**4**	100	**4-1/2**	114	**4-1/2**	114	**5**	127
D	**2-1/2**	64	**3**	76	**3-1/4**	83	**4-3/4**	121	**4-3/4**	121	**5-3/8**	136
WEIGHTS	**lbs.**	**kg.**	**lbs.**	**kg.**	**lbs.**	**kg.**	**lbs.**	**kg.**	**lbs.**	**kg.**	**lbs.**	**kg.**
Net Wt.	**4.1**	1.9	**5.4**	2.5	**9.0**	4.0	**9.1**	4.1	**12.9**	5.9	**16.5**	7.5

** For Union Ball Valve, Press, and Push connection dimensions, see submittal sheets.*

Double Check Valve Backflow Preventers

DCLF 4A SERIES

Sizes 2-1/2"-12"

TriForce™ Check

DOUBLE CHECK VALVE ASSEMBLY

The Apollo® MODEL DCLF 4A Double Check Valves are designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are objectionable, but non-health hazards. The TriForce™ center stem guided check valves feature replaceable and reversible silicone seat discs. The body is domestic stainless steel from 2-1/2"-8" and FDA epoxy coated ductile iron in the 10" and 12". Available with a wide variety of shutoff valve options.

OPERATION

During normal flow conditions, the two check valves are held off their seats, supplying water downstream. Each check valve is designed to maintain a minimum of 1 psi across the valve during normal operation. Should the downstream pressure increase to within 1 psi of supply pressure, both check valves will close to prevent a backflow condition.

FEATURES

- Domestic Stainless steel body: 2-1/2"-8"
- FDA epoxy coated ductile iron body: 10" & 12"
- Easy maintenance - no special tools required
- Snap-in check retainers: 2-1/2"-6"
- Bolted-in checks: 8"-12"
- Low pressure loss as documented by an independent laboratory
- Center stem guided TriForce™ check valves
- Approved for horizontal and vertical up flow
- Chloramine-resistant elastomers
- **Lead-Free** standard
- ASSE 1015
- CSA B64.5
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 8")
- AWWA C-510
- IAPMO
- UL, ULC Classified
- FM approved
- Maximum working pressure 175 psi
- Temperature range 33°F - 140°F, 180°F intermittent
- US Patent Nos. 6,443,184; 7,025,085; 7,533,699
- Made in the USA
- 5 year, domestic warranty

MATERIALS

Part	Material
Body (2-1/2"-8")	304 Stainless Steel
Body (10 & 12")	FDA Epoxy Coated Ductile Iron
Covers (2-1/2"-6")	Glass Filled PPO/SS
Covers (8")	304 Stainless Steel
Covers(10 & 12")	FDA Epoxy Coated Ductile Iron
Check Valves	Bronze/Glass-filled PPO/SS
Springs	Stainless Steel
Seat Discs	Chloramine-resistant Silicone

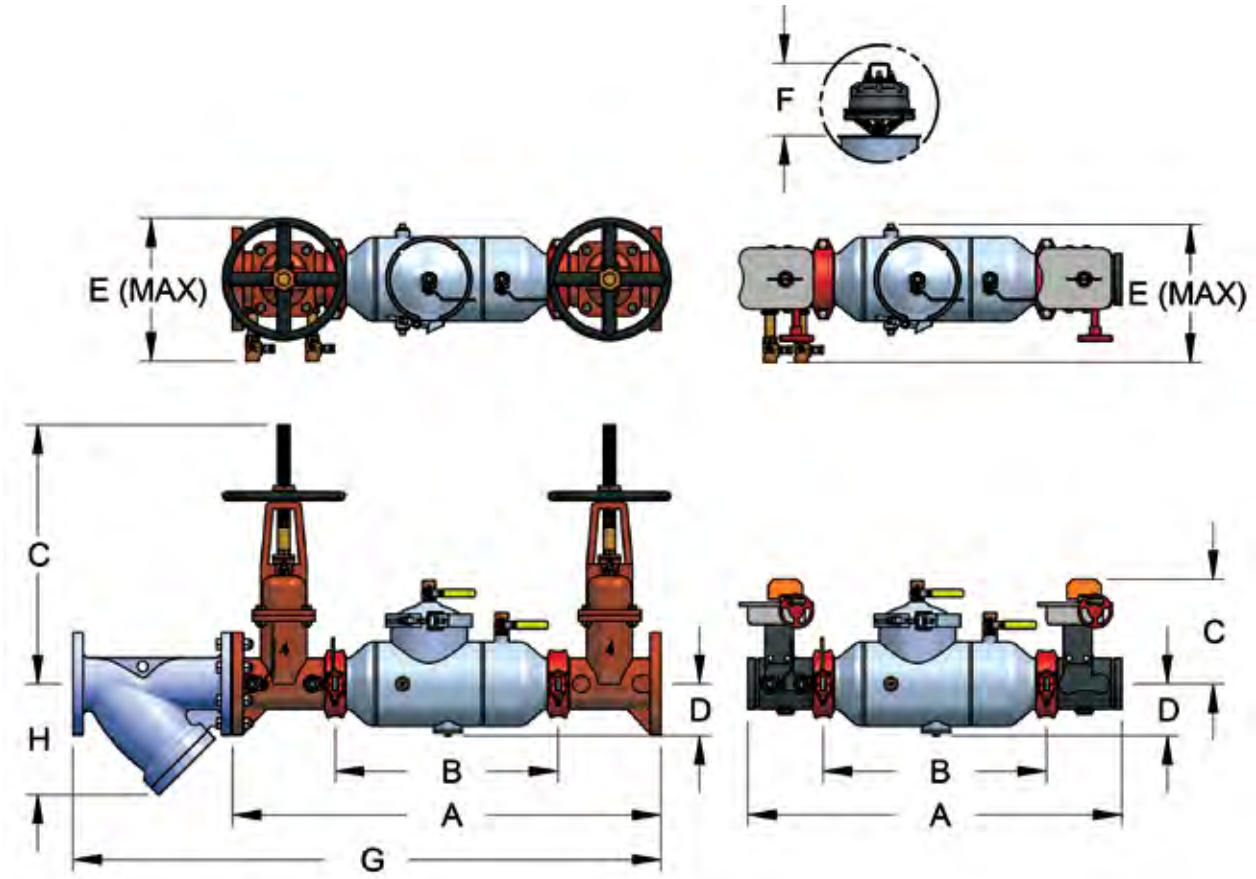
FACTORY CODE

4ALF	1 X	X	0X [X]
	Y-STRAINER	SIZE	SHUT-OFF VALVES
4ALF = Lead Free Standard	0 = Standard 1 = w/ Y-strainer (shipped loose)	9 = 2-1/2" 0 = 3" A = 4" C = 6" E = 8" G = 10" H = 12"	1 = Less Shut-off Valves 2 = NRS Flg x NRS Flg 3 = OS&Y Flg x OS&Y Flg 4 = OS&Y Flg x Monitored (Mon.) Butterfly Vlv Grv† 6 = OS&Y Flg x Post indicator Flg** 7 = OS&Y Flg x OS&Y Grv 8 = OS&Y Grv x OS&Y Grv 9 = Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv† 10 = OS&Y Flg x Post Indicator Grv** 11 = NRS Grv x NRS Grv 12 = NRS Flg x NRS Grv 13 = Post Indicator Flg x Mon. Butterfly Vlv Grv† 14 = Post Indicator Flg x Post Indicator Flg 16 = Mon Butterfly Vlv Grv x Post Indicator Flg† 17 = Post Indicator Flg x OS&Y Grv 18 = OS&Y Grv x Post Indicator Grv 19 = Mon. Butterfly Vlv Grv x Post Indicator Grv 20 = Post Indicator Flg x OS&Y Flg ** Post indicator with plate & nut option not available in 2-1/2" size. † Butterfly valves not available in 12" size.

Example:
***4ALF 10A 03** = 4" size Lead Free Double Check Valve Assembly with OS&Y flanged inlet x OS&Y flanged outlet shut-off valves (shown above)*

Double Check Valve Backflow Preventers

DCLF 4A SERIES



DIMENSIONS

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances (± 1/8" (3 mm) per joint)

See Page 56 For Flow Curves

DIMENSIONS	2-1/2"	60mm	3"	75mm	4"	100mm	6"	150mm	8"	200mm	10"	250mm	12"	300mm
A (Butterfly Valves)	**28** ±	711 ±	**28-1/2** ±	724 ±	**33-1/4** ±	845 ±	**38-7/8** ±	987 ±	**46-3/8** ±	1178 ±	**52-1/4** ±	1327 ±	**N/A**	N/A
A (Gate Valves)	**31** ±	787 ±	**32** ±	813 ±	**38** ±	965 ±	**45-7/8**±	1165 ±	**53- 3/8** ±	1356 ±	**62-1/4** ±	1581 ±	**65-1/2** ±	1664 ±
B (Less Shut-off Valves)	**15-7/8** ±	403 ±	**15-7/8** ±	403 ±	**19-5/8** ±	498 ±	**24-1/2** ±	622 ±	**30 ±**	762 ±	**36** ±	914 ±	**37 ±**	940 ±
C (Butterfly Valves)	**8**	203	**8-3/8**	213	**9-1/8**	233	**10-1/8**	257	**12**	306	**13-5/8**	346	**N/A**	N/A
C (NRS/PI Gate Valves)	**11-3/8**	289	**12-3/8**	314	**14-3/4**	375	**19**	483	**22-1/2**	572	**26-1/2**	673	**30**	762
C (OS&Y Open)	**16-3/8**	416	**18-7/8**	467	**22-3/4**	578	**30-1/8**	765	**37-3/4**	959	**45-3/4**	1162	**53-1/8**	1349
D (Centerline to bottom)	**3-7/8**	98	**3-7/8**	98	**4-5/8**	117	**6**	152	**8-1/8**	206	**11-3/4**	298	**12**	305
E (Width Max)	**10-1/2**	267	**11**	279	**12-1/2**	318	**14-3/8**	365	**17-5/8**	448	**21**	533	**22**	559
F (Check Removal Clearance)	**4-3/4**	121	**4 -3/4**	121	**6-1/2**	165	**7-1/2**	191	**7-1/2**	191	**10**	254	**10**	254
G (With Strainer)	**41-7/8**	1064	**43-5/8**	1109	**52**	1321	**64-1/2**	1638	**74-7/8**	1902	**88-3/8**	2245	**95-5/8**	2429
H (Strainer Clearance)	**8**	203	**8-3/4**	222	**9-1/2**	241	**12-5/8**	321	**16-3/8**	416	**19**	483	**22**	559
Test Cocks (NPT)	**1/2"**	13	**1/2"**	13	**1/2"**	13	**3/4"**	20	**3/4"**	20	**3/4"**	20	**3/4"**	20
WEIGHTS	**lb.**	**kg**	**lb.**	**kg**	**lb.**	**kg**	**lb.**	**kg**	**lb.**	**kg**	**lb.**	**kg**	**lb.**	**kg**
Net Wt. (Less Shut-offs)	**22**	10	**23**	10	**39**	18	**75**	34	**208**	94	**702**	318	**805**	365
Net Wt. (w/ Butterfly Valves)	**49**	22	**53**	24	**83**	38	**143**	65	**339**	154	**920**	417	**N/A**	N/A
Net Wt. (w/ NRS Gate Valves)	**108**	49	**134**	61	**188**	85	**314**	142	**671**	304	**1548**	702	**1943**	881
Net Wt. (w/ OS&Y Gate Valves)	**118**	54	**144**	65	**194**	88	**324**	147	**685**	311	**1588**	720	**1997**	906

Notes:

1. *Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances (1/8" per joint).*
2. *Internal body connections are grooved on 2 ½" – 10" sizes.*
3. *Internal body connections are flanged on 12" size.*
4. *Strainer option only available for flanged-end shut-off options.*

Double Check Valve Backflow Preventers

DCLF 4An SERIES

n Flow

Sizes 2-1/2"-12"

TriForce™ Check

Optional Valve Setter (see pg 50)

n STYLE DOUBLE CHECK VALVE ASSEMBLY

The Apollo® MODEL DCLF 4An Double Check Valves are designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are objectionable, but non-health hazards. The TriForce™ center stem guided check valves feature replaceable and reversible silicone seat discs. The normally vertical up/vertical down oriented body incorporates an internal swivel connection providing the ability to pivot the second check. The n style flow body is domestic stainless steel from 2-1/2"-8" and FDA epoxy coated ductile iron in the 10" and 12". Available in a wide variety of shut-off valves.

OPERATION

During normal flow conditions, the two check valves are held off their seats, supplying water downstream. Each check valve is designed to maintain a minimum of 1 psi across the valve during normal operation. Should the downstream pressure increase to within 1 psi of supply pressure, both check valves will close to prevent a backflow condition.

FEATURES

- Domestic Stainless steel body: 2-1/2"-8"
- FDA epoxy coated ductile iron body: 10" & 12"
- Easy maintenance - no special tools required
- Drop-in check retainers: 2-1/2"-6"
- Bolted-in checks: 8"-12"
- Low pressure loss as documented by an independent laboratory
- Center stem guided TriForce™ check valves
- 5 year, domestic warranty
- **Lead-Free** standard
- Small installation space required - small footprint
- Chloramine-resistant elastomers
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 8")
- ASSE 1015
- UL, ULC Classified
- FM approved
- Maximum working pressure 175 psi
- Temperature range 33°F - 140°F, 180°F intermittent
- Optional valve setters eliminate need for thrust blocks
- US Patent Nos. 6,443,184; 7,025,085; 7,533,699
- Made in the USA

MATERIALS

Part	Material
Body (2-1/2"-8")	304 Stainless Steel
Body (10 & 12")	FDA Epoxy Coated Ductile Iron
Covers (2-1/2"-6")	Glass Filled PPO/SS
Covers (8")	304 Stainless Steel
Covers(10 & 12")	FDA Epoxy Coated Ductile Iron
Check Valves	Bronze/Glass-filled PPO/SS
Springs	Stainless Steel
Seat Discs	Chloramine-resistant Silicone

FACTORY CODE

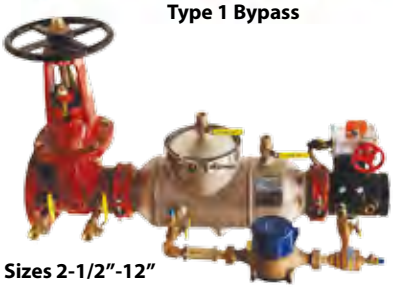
4AnLF	1 X	X	0X
	Y-STRAINER	**SIZE**	**SHUT-OFF VALVES**
4AnLF = Lead Free Standard	0 = Standard 1 = w/ Y-strainer (shipped loose)	9 = 2-1/2" 0 = 3" A = 4" C = 6" E = 8" G = 10" H = 12"	1 = Less Shut-off Valves 2 = NRS Flg x NRS Flg 3 = OS&Y Flg x OS&Y Flg 4 = OS&Y Flg x Monitored (Mon.) Butterfly Vlv Grv† 6 = OS&Y Flg x Post indicator Flg** 7 = OS&Y Flg x OS&Y Grv 8 = OS&Y Grv x OS&Y Grv 9 = Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv† 10 = OS&Y Flg x Post Indicator Grv** 11 = NRS Grv x NRS Grv 12 = NRS Flg x NRS Grv 13 = Post Indicator Flg x Mon. Butterfly Vlv Grv† 14 = Post Indicator Flg x Post Indicator Flg 16 = Mon Butterfly Vlv Grv x Post Indicator Flg† 17 = Post Indicator Flg x OS&Y Grv 18 = OS&Y Grv x Post Indicator Grv 19 = Mon. Butterfly Vlv Grv x Post Indicator Grv 20 = Post Indicator Flg x OS&Y Flg ** Post indicator with plate & nut option not available in 2-1/2" size. † Butterfly valves not available in 12" size.

Example:
***4AnLF 10A 03** = 4" size Lead Free Double Check Valve Assembly with OS&Y flanged inlet x OS&Y flanged outlet shut-off valves (shown above)*

Double Check Detector Backflow Preventers

DCDALF 4A SERIES

Type 1 Bypass



Sizes 2-1/2"-12"

TriForce™ Check

DCDALF 4A DOUBLE CHECK DETECTOR ASSEMBLY

The Apollo® MODEL DCDALF 4A Double Check Detector Assembly is designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are objectionable, but non-health hazards. The TriForce™ center stem guided check valves feature replaceable and reversible silicone seat discs. The by-pass assembly serves to measure accurate water use of up to 2 GPM. Available in a wide variety of shut-off options.

The Type 2 bypass uses the first check of the mainline assembly as the first check of the bypass. The second check of the bypass is a single check valve with a model number and serial number for test recording. This arrangement complies with the National Backflow Standards. The arrangement provides the same level of protection as the standard Type 1 bypass and the testing procedure is the same.

FEATURES

- Domestic Stainless steel body: 2-1/2"-8"
- FDA epoxy coated ductile iron body: 10" & 12"
- Easy maintenance - no special tools required
- Drop-in check retainers: 2-1/2"-6"
- Bolted-in checks: 8"-12"
- Low pressure loss as documented by an independent laboratory
- Center stem guided TriForce™ check valves
- Approved for horizontal and vertical up flow*
- Chloramine-resistant elastomers
- **Lead-Free** standard
- ASSE 1048 (with meter)
- UL, ULC Classified
- FM approved
- CSA B64.5
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (DCDALF 4A 2-1/2" - 8")
- Maximum working pressure 175 psi
- Temperature range 33°F - 140°F, 180°F intermittent
- US Patent Nos. 6,443,184; 7,025,085; 7,533,699
- Made in the USA
- 5 year, domestic warranty
- Optional mounting of bypass on either side for ease of installation

MATERIALS

Part	Material
Body (2-1/2"-8")	304 Stainless Steel
Body (10 & 12")	FDA Epoxy Coated Ductile Iron
Covers (2-1/2"-6")	Glass Filled PPO/SS
Covers (8")	304 Stainless Steel
Covers(10 & 12")	FDA Epoxy Coated Ductile Iron
Check Valves	Bronze/Glass-filled PPO/SS
Springs	Stainless Steel
Seat Discs	Chloramine-resistant Silicone

FACTORY CODE

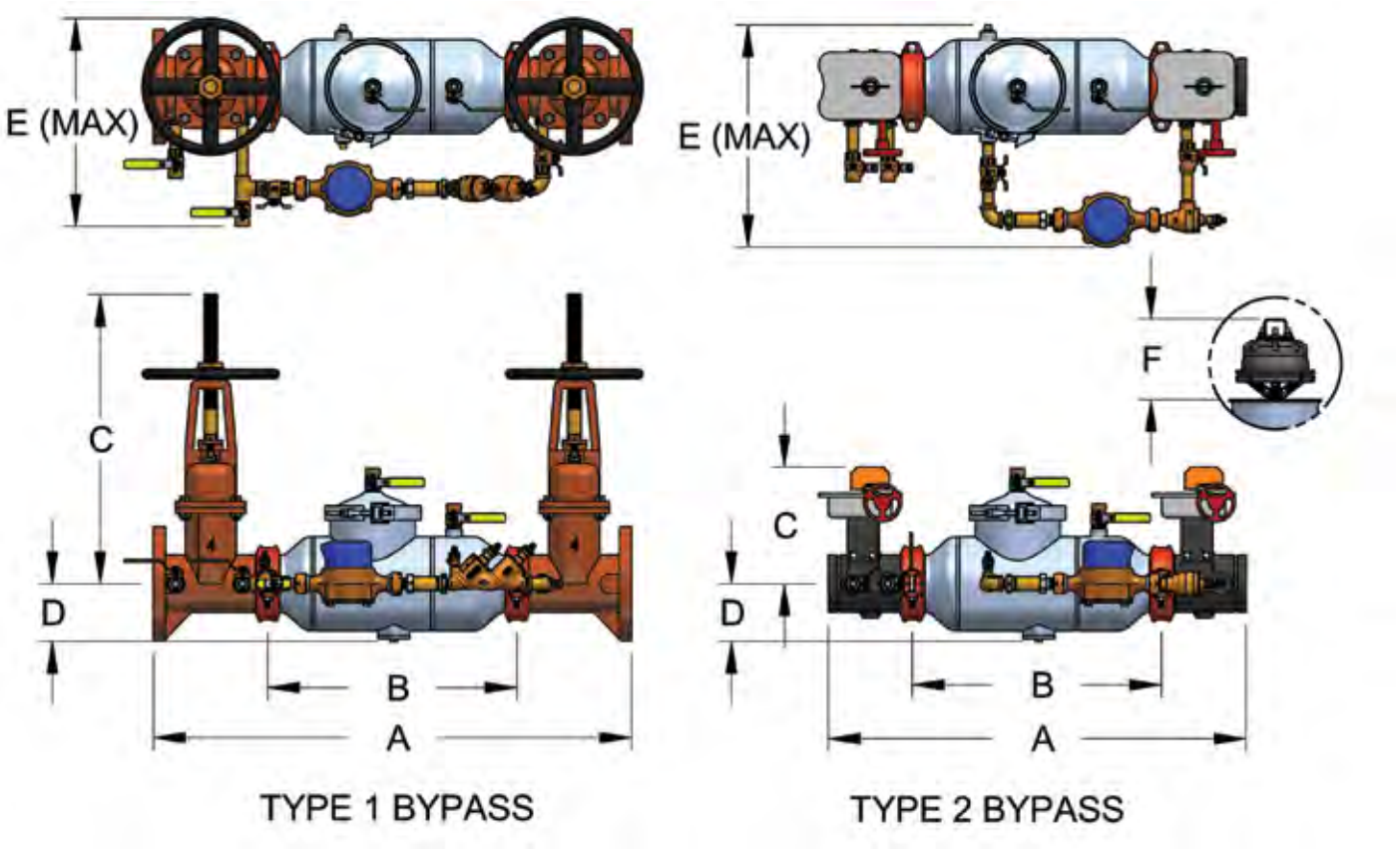
4ALF	6 X	X	X	[X]
	BY-PASS SUB-ASSEMBLY OPTIONS	SIZE	METER OPTION	SHUT-OFF VALVES (Inlet X Outlet)
4ALF = Lead Free	0 = Type 1 w/ 1/2" Double Check 2 = Type 2 w/1/2" Single Check 3 = Type 1 w/ bypass on left* 4 = Type 2 w/ bypass on left*	9 = 2-1/2" 0 = 3" A = 4" C = 6" E = 8" G = 10" H = 12"	C = Cubic feet/min E = Gallons/min G = Less meter	1 = Less Shut-off Valves 3 = OS&Y Flg x OS&Y Flg 4 = OS&Y Flg x Monitored (Mon.) Butterfly Vlv Grv† 6 = OS&Y Flg x Post indicator Flg** 7 = OS&Y Flg x OS&Y Grv 8 = OS&Y Grv x OS&Y Grv 9 = Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv† 10 = OS&Y Flg x Post Indicator Grv** 13 = Post Indicator Flg x Mon. Butterfly Vlv Grv† 14 = Post Indicator Flg x Post Indicator Flg 16 = Mon Butterfly Vlv Grv x Post Indicator Flg† 17 = Post Indicator Flg x OS&Y Grv 18 = OS&Y Grv x Post Indicator Grv 19 = Mon. Butterfly Vlv Grv x Post Indicator Grv 20 = Post Indicator Flg x OS&Y Flg

Example:
***4ALF 60A E3** = 4" size Lead Free Double Check Detector Assembly with OS&Y flanged inlet x OS&Y flanged outlet shut-off valves w/ meter in gallons.*

** Orientation of bypass looking downstream. Standard is right hand side. Left hand is on opposite side*
*** Post indicator with plate & nut option not available in 2-1/2" size.*
† Butterfly valves not available in 12" size.

Double Check Detector Backflow Preventers

DCDALF 4A SERIES



DIMENSIONS

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances (± 1/8" (3 mm) per joint)

See Page 59 For Flow Curves

DIMENSIONS	2-1/2"	60mm	3"	75mm	4"	100mm	6"	150mm	8"	200mm	10"	250mm	12"	300mm
A (Butterfly Valves)	**28** ±	711 ±	**28-1/2** ±	724 ±	**33-1/4** ±	845 ±	**38-7/8** ±	987 ±	**46-3/8** ±	1178 ±	**52-1/4** ±	1378 ±	**N/A**	N/A
A (Gate Valves)	**31** ±	787 ±	**32** ±	813 ±	**38** ±	965 ±	**45-7/8** ±	1165 ±	**53-3/8** ±	1356 ±	**62-1/4** ±	1581 ±	**65-1/2** ±	1664 ±
B (Less Shut-off Valves)	**15-7/8** ±	403 ±	**15-7/8** ±	403 ±	**19-5/8** ±	498 ±	**24-1/2** ±	622 ±	**30** ±	762 ±	**36** ±	914 ±	**37** ±	940 ±
C (Butterfly Valves)	**8**	203	**8-3/8**	213	**9-1/8**	233	**10-1/8**	257	**12**	306	**13-3/8**	340	**N/A**	N/A
C (NRS/PI Gate Valves)	**11-3/8**	289	**12-3/8**	314	**14-3/4**	375	**19**	483	**22-1/2**	572	**26-1/2**	673	**30**	762
C (OS&Y Open)	**16-3/8**	416	**18-7/8**	479	**22-3/4**	578	**30-1/8**	765	**37-3/4**	959	**45-3/4**	1162	**53-1/8**	1348
D (Centerline to bottom)	**3-7/8**	98	**3-7/8**	98	**4-5/8**	117	**6**	152	**8-1/8**	206	**11-3/4**	298	**12**	305
E (Width Max)	**17**	432	**17**	432	**17**	432	**20**	508	**21-1/2**	546	**26-1/2**	673	**26-1/2**	673
F (Check Removal Clearance)	**4-3/4**	121	**4-3/4**	121	**6-1/2**	165	**7-1/2**	191	**7-1/2**	191	**10**	254	**10**	254
Test Cocks (NPT)	**1/2"**	13	**1/2"**	13	**1/2"**	20	**3/4"**	20	**3/4"**	20	**3/4"**	20	**3/4"**	20
WEIGHTS	**lb.**	**kg**	**lb.**	**kg**	**lb.**	**kg**	**lb.**	**kg**	**lb.**	**kg**	**lb.**	**kg**	**lb.**	**kg**
Net Wt. (Less Shut-offs)	**37**	17	**38**	17	**54**	25	**90**	41	**223**	101	**722**	327	**825**	374
Net Wt. (w/ Butterfly Valves)	**64**	29	**68**	31	**98**	45	**158**	72	**354**	161	**940**	426	**N/A**	N/A
Net Wt. (w/ OS&Y Gate Valves)	**133**	60	**159**	72	**209**	95	**339**	154	**700**	318	**1608**	729	**2017**	915

Notes:
1. *Internal body connections are grooved on 2-1/2" to 10" sizes.*
2. *Internal body connections are flanged on 12" size.*

Double Check Detector Backflow Preventers

DCDALF 4An SERIES

Sizes 2-1/2"-12"

Optional Valve Setter (see pg 50)

n STYLE DOUBLE CHECK DETECTOR ASSEMBLY

The Apollo® MODEL DCLF 4An Double Check Valves are designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are objectionable, but non-health hazards. The TriForce™ center stem guided check valves feature replaceable and reversible silicone seat discs. The by-pass assembly serves to measure water use of up to 2 GPM. The normally vertical up/vertical down oriented body incorporates an internal swivel connection providing the ability to pivot the second check. The grooved connections on the bodies from 2-1/2" to 10" allow for easy connection to butterfly or gate shut-off valves. The 12" DCDA 4An has flanged connections for gate shut-off valves.

The Type 2 bypass uses the first check of the mainline assembly as the first check of the bypass. The second check of the bypass is a single check valve with a model number and serial number for test recording. This arrangement complies with the National Backflow Standards. The arrangement provides the same level of protection as the standard Type 1 bypass and the testing procedure is the same.

FEATURES

- Domestic Stainless steel body: 2-1/2"-8"
- FDA epoxy coated ductile iron body: 10" & 12"
- Easy maintenance - no special tools required
- Drop-in check retainers: 2-1/2"-6"
- Bolted-in checks: 8"-12"
- Low pressure loss as documented by an independent laboratory
- Center stem guided TriForce™ check valves
- 5 year, domestic warranty
- Small installation space required - small footprint
- Chloramine-resistant elastomers
- **Lead-Free** standard
- ASSE 1048 (with meter)
- UL, ULC Classified
- CSA B64.5
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (DCDALF 4AN 2-1/2" - 8")
- FM approved
- Maximum working pressure 175 psi
- Temperature range 33°F - 140°F, 180°F intermittent
- Optional valve setters eliminate need for thrust blocks below grade
- US Patent Nos. 6,443,184; 7,025,085; 7,533,699
- Made in the USA
- Optional mounting of bypass on either side for ease of installation

MATERIALS

Part	Material
Body (2-1/2"-8")	304 Stainless Steel
Body (10 & 12")	FDA Epoxy Coated Ductile Iron
Covers (2-1/2"-6")	Glass Filled PPO/SS
Covers (8")	304 Stainless Steel
Covers(10 & 12")	FDA Epoxy Coated Ductile Iron
Relief Valve	Bronze C84400/LF C89836
Check Valves	Bronze/Glass-filled PPO/SS
Springs	Stainless Steel
Seat Discs	Chloramine-resistant Silicone

FACTORY CODE

4AnLF	6 X	X		X [X]
	BY-PASS SUB-ASSEMBLY OPTIONS	SIZE	METER OPTION	SHUT-OFF VALVES (Inlet X Outlet)
4AnLF = Lead Free	0= Type 1 w/ 1/2" Double Check	9= 2-1/2"	C= Cubic feet/min	1 = Less Shut-off Valves
	2= Type 2 w/1/2" Single Check	0= 3"	E= Gallons/min	3 = OS&Y Flg x OS&Y Flg
	3= Type 1 w/ bypass on left*	A= 4"	G= Less meter	4 = OS&Y Flg x Monitored (Mon.) Butterfly Vlv Grv†
	4= Type 2 w/ bypass on left*	C= 6"		6 = OS&Y Flg x Post indicator Flg**
		E= 8"		7 = OS&Y Flg x OS&Y Grv
		G= 10"		8 = OS&Y Grv x OS&Y Grv
		H= 12"		9 = Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv†
				10 = OS&Y Flg x Post Indicator Grv**
				13 = Post Indicator Flg x Mon. Butterfly Vlv Grv†
				14 = Post Indicator Flg x Post Indicator Flg
				16 = Mon Butterfly Vlv Grv x Post Indicator Flg†
				17 = Post Indicator Flg x OS&Y Grv
				18 = OS&Y Grv x Post Indicator Grv
				19 = Mon. Butterfly Vlv Grv x Post Indicator Grv
				20 = Post Indicator Flg x OS&Y Flg

Example:
***4AnLF 62A E7** = 4" size Lead Free Double Check Detector Assembly with OS&Y flanged inlet x OS&Y grooved outlet shut-off valves with Type 2 bypass w/ meter in GPM*

** Orientation of bypass looking downstream. Standard is right hand side. Left hand is on opposite side*

*** Post indicator with plate & nut option not available in 2-1/2" size.*

† Butterfly valves not available in 12" size.

Double Check Valve Backflow Preventers

DC 4SG SERIES

DC 4SG SERIES DOUBLE CHECK VALVE ASSEMBLY

The Apollo® DC 4SG Series Double Check Valve is designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are non-health hazards. The modular check valves have replaceable seats and reversible EPDM seat discs. Grooved connections on an epoxy-coated ductile iron body allow for easy connection to butterfly valves or gate valves.

FEATURES

- Lightweight
- Short lay length
- Low pressure loss
- Modular check valves
- Individual access to check valves
- Reversible/replaceable seat discs
- Approved for vertical (up) and horizontal installations
- Gate valves epoxy coated (FDA)
- **Lead-Free** option (2-1/2" - 6" only)
- Corrosion resistant epoxy-coated ductile iron body
- ASSE 1015
- CSA
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 10" Non-Lead Free Only)
- AWWA C-510
- UL Classified
- FM approved
- US Patents #5,711,341 and #6,343,618

MATERIALS

Part	Material
Body	Epoxy-coated (FDA) Ductile Iron
Covers (2-1/2" - 6")	Epoxy-coated (FDA) Steel
Covers (8", 10")	Epoxy-coated (FDA) Ductile Iron
Check Valves (2-1/2" - 6")	Glass-Filled PPO
Check Valves (8"-10")	Bronze C84400
Springs	Stainless Steel
Seat Discs	Chloramine-resistant EPDM
Test Cock Handles	Stainless Steel

FACTORY CODE

4SG [X]	1 X X		0 X	X
	Y-STRAINER	SIZE	SHUT-OFF VALVES (Inlet x Outlet)	FLOW (OPTIONAL)
4SG = Standard 4SG LF = Lead Free (2-1/2"-6" only) 4S = 10"	0= None (Standard) 1= With Y-Strainer (Flanged only, shipped loose)	9= 2-1/2" 0= 3" A= 4" C= 6" E= 8" G= 10"#	1 = Less Shut-off Valves (grooved-end body) 2 = NRS Flg x NRS Flg 3 = OS&Y Flg x OS&Y Flg 4 = OS&Y Flg x Monitored Butterfly Valve Grv 6 = OS&Y Flg x Flg Post Indicator** 7 = OS&Y Flg x OS&Y Grv 8 = OS&Y Grv x OS&Y Grv 9 = Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv 10 = OS&Y Flg x Grv Post Indicator**	N= n Flow

 # 10" body is flanged internal connections only (Model 4S)
***Post indicator option not available in 2-1/2" size*

Example:
***4SG 10A 07** = 4" size Double Check Valve Assembly with OS&Y flanged inlet x OS&Y grooved outlet shut-off valves*

Double Check Detector Backflow Preventers

DCDA 4SG SERIES

Sizes 2-1/2", 3", 4", 6", 8",10"

DCDA 4SG SERIES DOUBLE CHECK DETECTOR ASSEMBLY

The Apollo® DCDA 4SG Series Double Check Detector Assembly is designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are non-health hazards. The device consists of a mainline double check valve with resilient seated shut-off valves. The by-pass serves to measure water use of up to 3 gpm. Grooved connections on an epoxy-coated ductile iron body allow for easy connection to butterfly valves or gate valves.

FEATURES

- Lightweight
- Short lay length
- Low pressure loss
- Modular check valves
- Individual access to check valves
- Reversible/replaceable seat discs
- Approved for vertical and horizontal installations
- **Lead-Free** option (2-1/2" - 6" only)
- Gate valves epoxy coated (FDA)
- Corrosion resistant FDA epoxy-coated ductile iron body
- UL Classified
- FM approved
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 10" Non Lead Free Only)
- ASSE 1048 (with meter)
- CSA
- US Patents #5,711,341 and #6,343,618

MATERIALS

Part	Material
Body (mainline)	Epoxy-coated (FDA) Ductile Iron
Bypass DC	Bronze (C84400, LF C89836)
Covers (2-1/2" - 6")	Epoxy-coated (FDA) Steel
Covers (8")	Epoxy-coated (FDA) Ductile Iron
Check Valves (2-1/2" - 6")	Glass-Filled PPO
Check Valves (8")	Bronze (C84400, LF C89836)
Springs	Stainless Steel
Seat Discs	Chloramine-Resistant EPDM
Test Cock Handles	Stainless Steel

FACTORY CODE

4SG [X]	60 X	X	[X]	X
	SIZE	METER OPTION	SHUT-OFF VALVES (Inlet x Outlet)	FLOW (OPTIONAL)
4SG = Standard 4SGLF = Lead Free (2-1/2"-6" only) 4S = 10"	9 = 2-1/2" 0 = 3" A = 4" C = 6" E = 8" G = 10"#	C = Cubic feet/min E = Gallons/min G = Less meter	1 = Less Shut-off Valves (grooved-end body) 3 = OS&Y Flg x OS&Y Flg 4 = OS&Y Flg x Monitored Butterfly Valve Grv 6 = OS&Y Flg x Flg Post Indicator** 7 = OS&Y Flg x OS&Y Grv 8 = OS&Y Grv x OS&Y Grv 9 = Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv 10 = OS&Y Flg x Grv Post Indicator**	N = n Flow

***Post indicator option not available in 2-1/2" size*
 # 10" body is flanged internal connections only (Model 4S)

Example:
***4SG 60A E7** = 4" size Double Check Detector Assembly with meter in gpm and OS&Y flanged inlet x OS&Y grooved outlet shut-off valves*

Reduced Pressure Backflow Preventers

RP 4A

Sizes 1/2", 3/4", 1", 1-1/4", 1-1/2", 2"

REDUCED PRESSURE PRINCIPLE

The Apollo® Series RP 4A Reduced Pressure Principle Backflow Preventer is designed to give maximum protection against backflow caused by either back-pressure or back-siphonage from substances that are hazardous. The durable but economical device is easily maintained in the line with modular check cartridge assemblies that require no special tools. It consists of two independently acting spring-loaded check valves with an automatic differential relief valve located between the check valves. All testcocks are mounted at the top of the unit to assure easy access during repair and maintenance when unit is installed in tight places.

FEATURES

- Maximum protection against back-pressure/back-siphonage
- Modular check valve cartridges w/easily replaced parts
- Reversible/removable chloramine-resistant silicone seat discs
- Low head pressure loss
- Top mounted test cocks
- Threaded testcock protectors
- Internal sensing passage
- ASSE 1013
- CSA B64.4
- **Lead-Free** option
  - NSF 61/8/G/372
  - Federal Public Law 111-380
- AWWA C511
- UL Classified (less shut-offs)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
- Standard with full port ball valves with stainless steel handles
- Corrosion resistant
- Maximum working pressure 175 psig
- Operating temperature range 33°F-180°F
- Horizontal installation approvals on 1/2" through 2"
- Designed, cast, manufactured, assembled and tested in South Carolina, USA
- 5 year, domestic warranty

MATERIALS

Part	Material
Body and Caps	Bronze (C84400, LF C89836)
BV Shut-offs, Testcocks	Bronze C84400 or C87800 Lead Free
Springs	300 Series SS
Seat Discs	Chloramine-resistant Silicone
Diaphragm	Nitrile and Nylon
Check Modules	Glass-Filled PPO
O-rings	Chloramine-resistant EPDM
Ball Valve Handles	Stainless Steel

Contact local water authorities for installation/service requirements.

FACTORY CODE

4A [X]	2 X	X	A X	X
	Y-STRAINER	**SIZE**	**SHUT-OFF VALVES**	**OPTIONS (CAN BE COMBINED)**
4A = Non-Lead Free 4ALF = Lead Free	0 = Standard 1 = With Y-Strainer (Shipped loose)	3 = 1/2" 4 = 3/4" 5 = 1" 6 = 1-1/4" 7 = 1-1/2" 8 = 2"	2 = w/ball valves (Standard) 4 = w/union ball valves (3/4" - 2")	F = SAE threaded test cocks (standard 1/2, 3/4", 1") L = Lever handle (3/4" & 1" only) LL = Locking lever handles PR = Press Connection P = Push Connection

Example:
***4A 215 A4LL** = 1" Reduced Pressure Backflow Preventer with strainer, union ball valves and locking lever handles*